

## CLAIMS

At least the following is claimed:

- 1 1. A method of producing a three-dimensional object, comprising the step  
2 of:  
3       forming an identifiable structure within the three-dimensional  
4       object, wherein the identifiable structure within the three-dimensional  
5       object can be detected using a non-invasive dimensional imaging device.
  
- 1 2. The method of claim 1, further comprising:  
2       providing a build material and a contrast enhancing material,  
3       wherein the three-dimensional object is constructed of the build material,  
4       and wherein the identifiable structure is fabricated from the contrast  
5       enhancing material.
  
- 1 3. The method of claim 2, wherein forming includes:  
2       disposing at least one layer of the build material onto a first area  
3       in an iterative manner;  
4       disposing at least one layer of the contrast enhancing material  
5       and the build material onto the first area, wherein the contrast enhancing  
6       material being disposed onto a designated area, wherein the build  
7       material being disposed onto a second area, wherein the second area  
8       and the designated area are different areas of the first area;  
9       forming the identifiable structure from at least one layer of the  
10      contrast enhancing material;  
11       disposing at least one layer of the build material onto the second  
12      area and the designated area; and  
13       forming the three-dimensional object.

- 1    4.    The method of claim 3, further comprising:
  - 2               forming a plurality of identifiable structures within the three-
  - 3               dimensional object.
- 1    5.    The method of claim 1, further comprising:
  - 2               providing a build material and a contrast enhancing material,
    - 3               wherein the three-dimensional object is constructed of the contrast
    - 4               enhancing material, and wherein the identifiable structure is fabricated
    - 5               from the build material.
- 1    6.    The method of claim 1, wherein the identifiable structure is fabricated  
2               from a contrast enhancing material.
- 1    7.    The method of claim 1, further comprising:
  - 2               wherein the identifiable structure is fabricated from a contrast
  - 3               enhancing material and includes at least one air-gap within the
  - 4               identifiable structure, wherein the combination of the contrast enhancing
  - 5               material and the air-gap define structure selected from a letter, a
  - 6               number, a symbol, an icon, an emblem, a logo, a sign, a bar code, a
  - 7               reference mark, a unique shape, a pattern and combinations thereof.
- 1    8.    The method of claim 1, wherein the non-invasive dimensional imaging  
2               device includes devices selected from X-ray devices, magnetic imaging
- 3               devices, computerized axial tomography (CAT) scan devices, ultrasound
- 4               devices, and computerized topography devices.
- 1    9.    The method of claim 1, wherein the contrast enhancing material is  
2               selected from nano-particles, micro-particles, colorants, and
- 3               combinations thereof.

- 1    10. The method of claim 1, wherein the identifiable structure is selected from  
2        a letter, a number, a symbol, an icon, an emblem, a logo, a sign, a bar  
3        code, a reference mark, a unique shape, a pattern and combinations  
4        thereof.
  
- 1    11. The method of claim 1, further comprising:  
2            wherein the identifiable structure is a void, wherein the void  
3        defines the identifiable structure selected from a letter, a number, a  
4        symbol, an icon, an emblem, a logo, a sign, a bar code, a reference  
5        mark, a unique shape, a pattern and combinations thereof.
  
- 1    12. A three-dimensional object produced by the method of claim 1.
  
- 1    13. The three-dimensional object of claim 12, wherein the three-dimensional  
2        object being a bone replacement
  
- 1    14. The three-dimensional object of claim 13, wherein the three-dimensional  
2        object being a security device.
  
- 1    15. A three-dimensional object produced by the method of claim 11.
  
- 1    16. A system for producing a three-dimensional object, comprising:  
2            a dispensing system including a build material and a contrast  
3        enhancing material;  
4            a layer forming system operative to:  
5              form an identifiable structure, wherein the identifiable  
6        structure can be detected using a non-invasive dimensional  
7        imaging device, and  
8              form the three-dimensional object, wherein the identifiable  
9        structure is disposed within the three-dimensional structure.

- 1    17. The system of claim 16, wherein the identifiable structure is fabricated
- 2        from the contrast enhancing material.
- 1    18. The system of claim 16, wherein the identifiable structure is a void.
- 1    19. The system of claim 16, wherein the identifiable structure is selected
- 2        from a letter, a number, a symbol, an icon, an emblem, a logo, a sign, a
- 3        bar code, a reference mark, a unique shape, a pattern and combinations
- 4        thereof.
- 1    20. The system of claim 16, wherein the three-dimensional object being a
- 2        bone replacement.
- 1    21. The system of claim 16, wherein the three-dimensional object being a
- 2        security device.
- 1    22. A method of identifying a three-dimensional object, comprising:
  - 1                providing the three-dimensional object having an identifiable
  - 2                structure disposed within the three-dimensional object;
  - 3                viewing the identifiable structure within the three-dimensional
  - 4                object using a non-invasive dimensional imaging device.
- 1    23. The method of claim 22, wherein the three-dimensional object is
- 2        disposed within a human subject.
- 1    24. The method of claim 23, wherein the three-dimensional object is selected
- 2        from a bone replacement and a joint replacement.
- 1    25. The method of claim 22, wherein the identifiable structure is selected
- 2        from a letter, a number, a symbol, an icon, an emblem, a logo, a sign, a
- 3        bar code, a reference mark, a unique shape, a pattern and combinations
- 4        thereof.